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ABSTRACT

This document reports preliminary results from a national survey of college faculty performed as part of the Mapping Project. The project and the survey concern the ways faculty balance, or do not balance, commitments to work and family. The theoretical framework was based on the work of J. Williams (1991) and others who have argued that an "ideal worker norm" has developed that often leads to job discrimination against women. In the academic context, the ideal worker norm may led to "bias avoidance" behaviors that occur when individuals deny themselves the opportunity to take on family commitments or minimize the impact of family on work performance. The survey process began with a sample of 702 U.S. colleges and universities. Of these institutions, 507 provided faculty names and addresses, and complete responses were eventually received from 4,188 faculty members (net response rate of 28.6%). Analysis of the survey results shows that bias avoidance behaviors are more common among female than male faculty. Women responding reported raising fewer children and reported lower levels of organizational and supervisor support for dual commitments to work and family. Although evidence was mixed, it did not appear that research institutions are less conducive to family formation than are teaching institutions. An appendix describes the sample of institutions. (SLD)

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The Mapping Project. Preliminary Results from the National Survey of Faculty.

Revised: May 17, 2002

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The Mapping Project

Preliminary Results from the National Survey of Faculty

Revised: MAY 17, 2002

Introduction

This document reports preliminary results from a national survey of faculty performed as part of the Mapping Project, based at Penn State University and funded by the Alfred P. Sloan Foundation. The project and survey concern the ways that faculty balance, or do not balance, commitments to work and family.

The theoretical framework for the survey was based upon the earlier work of Williams (1999), as applied to colleges and universities by Drago and Williams (2000), and by Drago, Crouter, Wardell and Willits (2001) in the earlier Faculty and Families Project at Penn State. Williams argues that the 'ideal worker' norm has emerged around professional occupations such that substantial non-work commitments are neither expected nor tolerated as people work their way up career ladders in the U.S. As a result, discrimination against parenting is implicit in many career ladders, occupations, and employing institutions. Because women have historically performed most parenting work, Williams concludes that the ideal worker norm often leads to discrimination against women.

Within the academic context, the ideal worker norm may lead to 'bias avoidance' behaviors. These behaviors occur when individuals deny themselves the opportunity to take on family commitments, attempt to minimize the impact of existing family commitments on work performance, or try to hide the performance of family tasks from co-workers or employers, all for the purpose of being perceived as committed and thereby securing career advancement.

There are three specific reasons why the ideal worker norm may lead to bias avoidance behaviors in academia:

- There is a relatively complete overlap between the ages of childbearing for women and those for academic careers involving either student status or being on the tenure track. Over that age range, the academic must prove him or herself sufficiently productive to be awarded tenure. Parenting might stand in the way of achieving tenure.
- Faculty status is associated with job tasks that are highly absorptive (Bailyn, 1993), thereby contributing to long hours and supporting norms of devotion to the job.
- Higher education stands at the pinnacle of a gendered educational hierarchy, where women are the vast majority of kindergarten teachers, and men are the vast majority of full professors at colleges and universities. To the extent that men have not traditionally shouldered childcare responsibilities, the expectation may emerge that such responsibilities should not interfere with career performance at institutions of higher education.

The survey was intended to answer a series of questions concerning the specific forms and general scope of bias avoidance behaviors. The main analysis will proceed over the next few months, while this

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preliminary analysis focuses on four questions:

- Are bias avoidance behaviors more common among female as opposed to male faculty?
- Are such behaviors more often found at research as opposed to teaching institutions?
- Are such behaviors mainly associated with male-dominated as opposed to female-dominated disciplines?
- Do non-tenure track positions provide a mechanism for bias avoidance?

Survey Development

The National Survey was developed and piloted as part of the Faculty & Families Project. Two mail-out pilots were administered during the first half of 2001, and two pilots of the world-wide web version were administered during the latter half of 2001 and January of 2002. Although other items are included, we capture bias avoidance for present purposes using one objective indicator -- the number of dependent children in the faculty member's home -- and two scales used in previous studies to capture organizational and supervisor support for the work/family commitments of employees. Bias avoidance *per se* should be related to low numbers of children. Norms relevant to bias avoidance should be associated with low values on the organizational and supervisor support scales.

The scales reported here capture (see National Survey for specific items):

- *Supervisor support* for the work/family needs of faculty, used a scale developed and tested earlier by Thomas and Ganster (1995). The 9-item scale was modified so that non-parents could respond, and included items such as whether the deparment chair or immediate supervisor "listens to my problems," or "schedules courses and committee meetings to accommodate faculty's family needs." Each item permitted five possible responses. After reversing some negatively worded items and summing, the scale ranged from 9 to 45. This scale is also reliable (alpha=.876).
- *Organizational support* for the work/family needs of faculty, a scale used in the National Study of the Changing Workforce (Bond, Galinsky and Swanberg, 1998). This is a 3-item scale asking, e.g., whether there is an "unwritten rule that you cannot take care of family needs during working hours." Each item permitted five possible responses. The values were reversed and summed, producing a scale such that higher figures are associated with greater organizational support. The scale ranged from 3 to 15, and is reliable (alpha=.818).

Survey Administration

The survey process began with a sample of 702 colleges and universities in the U.S. The initial group was selected as part of a stratified, random sample where stratification used the 1994 Carnegie classification of institutions of higher education as it applied to the 2000 Carnegie list. Because of small numbers, all Research institutions were included while, due to very large numbers, a small fraction of associate's degree institutions were studied. In addition, we included all institutions with membership in the College and University Work/Family Association (CUWFA), and those listed as "leadership campuses" in an earlier study of these issues (Friedman, Rimsky & Johnson, 1996). See the Appendix below for more information on the sample of institutions.

Of the 702 institutions, a total of 507 provided faculty names and email addresses to the public over the world-wide web. The targeted sample was all faculty in Chemistry and English at these institutions, including faculty who were full-time or part-time, and either tenure-line or on a fixed contract.

The disciplines of Chemistry and English were picked because they are relatively but not completely gender imbalanced. We wished to obtain samples from male-dominated and female-dominated disciplines while ensuring that both men and women would appear within the samples from each discipline in sufficient numbers for statistical purposes. The Population Research Institute at Penn State checked 1999 figures from the National Center for Education Statistics for college and university teachers, and found 19.5 percent of those teaching Chemistry are women (although the proportion of women among tenure-line faculty is lower). The comparable proportion for English is 60.1 percent.

Prospective respondents were sent an initial contact email letter, asking them to participate in the National Survey over the world-wide web. The email letters mentioned that CUWFA and the Committee on the Status of Women within the American Association of University Professors encouraged participation in the survey. Respondents were provided with the opportunity to have a $2 donation made to the charity of their choice at the end of the survey, and were also given the option of receiving a written version of the survey. Non-respondents were sent a follow-up email a week later, and a second follow-up email was sent after an additional week had passed to those who had not responded. The method for identifying non-respondents was that each prospective respondent was assigned a random six-digit ID number. These ID numbers were then used to create spaces in the survey response database to ensure that no respondent answered more than once. When the survey was submitted, the computer program placed the response in the database, and removed the individual's name, email address, and ID number from the list for follow-ups. Although this procedure did not guarantee anonymity, it came reasonably close to ensuring that we could not identify respondents.

A total of 15,898 email letters were sent, and 1,264 of these bounced either because the address was incorrect or because the respondent was on sabbatical for the year. Our prospective sample was therefore 14,634 respondents. Of those, 5,087 individuals returned the survey either over the world-wide web or in writing, yielding an overall response rate of 34.8%. Of the 5,087 responses, 62 were obtained from pilots administered during October and November of 2001, with the remainder being collected during February and March of 2002. Only 4,188 respondents completed all items relevant to all respondents (non-parents were asked to skip eight items), yielding a net response rate of 28.6%.

Although the final response rate was lower than we had hoped, the rates were substantially higher than those achieved when piloting the survey. For example, an initial, mail-back version of the survey was sent during the spring of 2001 to 329 faculty at an anonymous research university; 78 surveys were returned (23.7% overall response rate), and 64 had all items completed (19.5% net response rate). One of the pilots of the world-wide web based survey that did not have the individual identification codes included in the url (necessitating that respondents type the 6-digit code into the survey), began with 158 email invitations being sent during November of 2001, 16 of which bounced. A total of 27 faculty responded to that survey (overall response rate 19.0% or 27/142). The final response rates therefore represented a substantial improvement over the results of pilot survey administration.

Survey Results

The sample of respondents is described in Table 1 below. Because weights have yet to be developed to approximate the relevant population distribution, all results are reported separately for women and men. Additionally, some Carnegie ranking categories were combined due to small numbers in several categories, and the category of "Specialized schools - Technology," was excluded from Table 1 (and Table 2 below as well) because only 52 respondents were represented by that category in the sample.

Table 1: Description of Sample

	Women	Men

% parents	53.3%	67.9%
Avg. # of children	.664	.860
% Married or living in a committed relat.	74.3%	87.1%
Avg. Supervisor Support	33.40	34.61
Avg. Organizational Support	9.83	10.90
Avg. age	46.6 yrs	50.0 yrs
% Foreign-born	11.7%	13.5%
% Tenured or tenure-track	81.7%	91.6%
% Full-time	92.8%	96.4%
% Research I or Doctoral instit.	44.7%	50.7%
% Master's degree instit.	25.7%	23.8%
% B.A. instit.	19.7%	18.0%
% Associate of Arts instit.	9.1%	6.5%
% Large city location	21.7%	21.7%
Avg. Enrollment	12,896	13,894
Number of respondents	1,977	2,966

The figures in Table 1 are not surprising. Faculty men are over 13 percentage points more likely to be parents, and are on a per capita basis raising an average of around 30 percent more children than the faculty women in the sample. The men also tend to be a few years older, are more likely to work at a prestigious research I and doctoral institutions, and are around 10 percentage points more likely to hold a tenured or tenure-track position.

The relatively low incidence of parenting suggests that faculty women are more likely than faculty men to engage in bias avoidance behaviors. The lower proportion of women who are married or living in a committed relationship is consistent with this possibility. Similarly, the lower average values on the organizational and supervisor support scales suggest that faculty women may have more reasons to engage in bias avoidance behaviors.

The gender mix by discipline is not provided in Table 1. However, women comprised 23.7 percent of respondents in Chemistry (455/1,918), and 50.4 percent of respondents in English (1,526/3,025). The higher than expected percentage of women responding in Chemistry may be due to a perception among some men that the survey was only about "women's issues." The lower than expected percentage of women responding in English may reflect the relative oversampling of research I and doctoral institutions where women may continue to be underepresented, a factor that might have outweighed the tendency of women to respond more frequently than men.

Table 2 presents evidence of bias avoidance for women and men across various rankings in the simplified Carnegie categories used here. In general, we interpret these categories as capturing more of a research focus at the research/doctoral end, and more of a teaching focus as we move towards the associate's end. Within each category, the evidence suggests that women are more likely to engage in bias avoidance than men, both in terms of having fewer children and in perceptions of a less supportive environment and supervisor.

It is possible women in academia who wish to parent tend to avoid high-commitment research jobs. The

evidence does not fit this assertion. Although rates of parenting rise as we move from research/doctor institutions to those providing master's degrees, rates of parenting among women fall as we move to the more teaching oriented colleges and universities offering only bachelor's degrees and to those offering only associate's degrees. Indeed, the *lowest* rates of parenting among women responding are for those on the faculty of institutions offering associate's degrees. Rates of parenting among men are highest at the institutions offering bachelor's degrees.

Note that the average responses in terms of organizational and supervisor support exhibit a different pattern. For women, the highest perceived levels of organizational and supervisor support are found within the associate's degrees category. For men, the highest average perceived values are where they are employed within the master's degree classification.

Although further analysis is required to understand these patterns, the evidence does not support the claim that, relative to research institutions, teaching environments are more consistent with parenting. What is clear is that women seem to engage in bias avoidance behaviors more frequently, and may have greater reason to do so, compared to men across all types of institutions.

Table 2: Children & Family-responsiveness by Carnegie Classification

	Women	Men
Research/Doctoral		
Avg. # of children	.665	.847
Avg. Supervisor Support	32.78	33.96
Avg. Organizational Support	9.41	10.70
Master's Degrees		
Avg. # of children	.704	.862
Avg. Supervisor Support	34.10	35.35
Avg. Organizational Support	10.10	11.15
Bachelor's Degrees		
Avg. # of children	.690	.882
Avg. Supervisor Support	33.47	35.26
Avg. Organizational Support	10.05	11.13
Associate's Degrees		
Avg. # of children	.533	.834
Avg. Supervisor Support	34.35	35.31
Avg. Organizational Support	10.61	10.81

We next turn to figures for bias avoidance by discipline, as shown in Table 3. Consistent with patterns discussed earlier, within each discipline, women are raising fewer children than men and experience lower perceived levels of organizational and supervisor support.

Comparisons across the two disciplines can help to isolate the effects of male- as opposed to female-dominated disciplines. Separately, for men and for women, the table shows lower rates of parenting and higher rates of perceived organizational and supervisor support among English faculty. An explanation

for these apparently contradictory results will require further analysis. Nonetheless, the large divergence in childrearing across the disciplines suggests that male-dominated disciplines are not less conducive to family formation.

Table 3: Children and Family-responsiveness by Academic Discipline

	Women	Men
Chemistry		
Avg. # of children	.799	.928
Avg. Supervisor Support	32.49	33.95
Avg. Organizational Support	9.78	10.81
English		
Avg. # of children	.624	.792
Avg. Supervisor Support	33.67	35.27
Avg. Organizational Support	9.85	10.98

Table 4 considers the relationship between bias avoidance and the tenure system. As shown in Table 1, just over 18 percent of women and just over 8 percent of men in the sample are in non-tenured/tenure-track faculty positions. It is possible that these individuals purposefully seek out such positions as a way to balance work and family commitments. However, the evidence does not fit this possibility. Although perceptions of organizational support are higher for non-tenured/tenure-track faculty, perceived supervisor support is higher among men who hold tenured or tenure-track positions as opposed to men who do not. Further, although rates of childrearing are again consistently lower for women across the categories, both women and men (separately), engage in childrearing *more* frequently in tenured or tenure-track positions.

These findings do not necessarily show that individuals *cannot* use non-tenure-track jobs as a device for balancing work and family commitments. What it does suggest, strongly, is that a majority of individuals employed in these positions *are not* using the jobs as a way to achieve balance. It does not appear that a large number of individuals are currently seeking 'freeway flyer' status as a way to make time for their families.

Table 4: Children and Family-responsiveness by Tenure/Tenure-Track Status

	Women	Men
Tenured or Tenure-track		
Avg. # of children	.668	.865
Avg. Supervisor Support	33.22	34.65
Avg. Organizational Support	9.77	10.89
Non-Tenured/Tenure-track		
Avg. # of children	.648	.814
Avg. Supervisor Support	34.10	34.28
Avg. Organizational Support	10.10	10.92

Summary

Although we are far from providing the last word on these issues, analysis of the national survey results suggests the following answers to the four

questions posed in the introduction.

- Bias avoidance behaviors are more common among female as opposed to male faculty. The women who responded were raising fewer children and reported lower levels of organizational and supervisor support for dual commitments to work and family. These differences appeared in the overall sample, across female and male faculty within each of the simplified Carnegie classification categories employed here, across the disciplines of Chemistry and English, and separately for tenured/tenure-track and non-tenured/non-tenure-track faculty.

- Although the evidence is somewhat mixed, it does not appear that research institutions are less conducive to family formation relative to teaching institutions.

- Rates of family formation were, for men and separately for women, consistently higher in the male-dominated discipline of Chemistry, as opposed to the female-dominated discipline of English.

- Reported rates of family formation were higher for women, and separately for men, who held tenured or tenure-track positions relative to those on fixed contracts. Non-tenure line positions are not currently being used by most occupants as a way to generate time for their families.

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Appendix: Sample of Institutions

For the project, we used the 1994 Carnegie rankings as applied to the 2000 Carnegie list. The reason for using the later list was to obtain a more up-to-date sample. The reason for using the earlier rankings was to provide a finer breakdown by institutional rank, as compared to the more recent classification method. See http://www.carnegiefoundation.org/Classification/index.htm for a discussion of changes in the classification or to download the 2000 list with the 1994 classifications included.

The basic strategy was to randomly select approximately 35 percent of the institutions within each category to include in the study. As shown in a comparison of the first two numeric columns of Table A1 (below), we selected this percentage in most categories, including Master's Colleges and Universities, BA Colleges I and II, and Specialized Schools - Engineering and Technology. Four exceptions to this rule were made. First, all Research Universities were sampled, in part because these institutions are large and produce most of the Ph.D.s who go on to become faculty at other institutions. Second, we included all institutional members of CUWFA, and all leadership campuses from an earlier study of these issues. This exception raised the number of Doctoral Universities included in the original sample from 39 to 40. Third, only nine percent of Associate of Arts Colleges were included in order to prevent the very large number of such institutions from swamping the sample. Fourth, we excluded nine categories of institutions, including eight specialized types (e.g., business or law) and tribal colleges and universities. The only such category covering more than 70 institutions was for theological seminaries (275 institutions), a group where we believed the response rate for a survey concerning family issues would be particularly low (this suspicion was at least partly confirmed by two prospective respondents from Catholic institutions who believed the survey was inappropriate for them as nuns). Because of concerns regarding the role of technology in the future of the society, we did however include 35 percent of the specialized schools in this area.

The right-hand column in Table A1 lists the numbers of institutions where at least one faculty member responded. To be included in the final sample, names and email addresses of faculty in Chemistry and English had to be provided over the world-wide web to the general public. Out of the 702 institutions originally identified, 510 provided such information. Out of that 510, it was the case for only three institutions that no one responded. Therefore, virtually all of the difference between the original and final samples of institutions can be accounted for by differences in the public provision of faculty information. Looking down the column, the general pattern is one where percentages found in the final sample fall as we move from Research to Doctoral to BA and Associate of Arts Colleges. The pattern is not completely consistent, since BA Colleges I yielded an almost nine percentage point higher figure than Master's Colleges and Universities; nonetheless, the pattern clearly exists. We suspect, but do not attempt to prove here, that these differences reflect the greater size (e.g. economies of scale) and resources associated with institutions toward the top of the list. If this is so, then we undoubtedly undersampled faculty at poorer institutions, a phenomenon compounded by our initial decision to sample a far lower percentage of Associate of Arts Colleges. This undersampling implies that any attempt to project sample averages onto the general population of Chemistry and English faculty in the U.S. should employ appropriate weights.

Table A1: Sample of Institutions for the National Survey of Faculty

Classification	# in 2000 Carnegie List	# in Original Sample	# in Final Sample(% of Original)
Research Univ.s	126	126	113 (89.7%)
Doctoral Univ.s	110	40	31 (77.5%)
Master's Colleges & Univ.s	530	184	130 (70.7%)
BA Colleges I	164	58	46 (79.3%)
BA Colleges II	468	163	103 (63.2%)
Assoc. of Arts Colleges	1353	119	77 (64.7%)
Specialized - Engin. & Techn.	35	12	7 (58.3%)
Special., Tribal & Not Classif.	1155	-	-
TOTALS	3941	702	507 (72.2%)

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